What is claimed is:

1. A control system comprising:

a programmable controller including a CPU unit that carries out cyclic operations of I/O refresh, user program execution and peripheral service processes; and

a programming tool that edits said user program;

wherein said programming tool has the functions of uploading and downloading said user program from and to said programmable controller; and

wherein said CPU unit includes two memories for storing said user program and has the functions of:

selecting one of said two memories, when said programming tool carries out an editing process on said user program while said cyclic operations are being carried out, and the user program stored in said selected memory to be the object of execution;

uploading said programming tool and thereby outputting the user program stored in selected one of said two memories to said programming tool while said peripheral service processes are being carried out;

storing, while said peripheral service processes are being carried out, a user program downloaded from said programming tool in the other of said memories not storing a user program being executed;

switching the user program stored in the other memory, after the downloaded user program has completely been stored in the other memory, to become executed; and

copying and storing the user program stored in the other memory to and in the selected memory.

2. The control system of claim 1 wherein said CPU unit further has the function of further switching the object of execution from the user program stored in the other memory to the user program stored in the selected memory when said programming tool edits the user program stored in the other memory while said cyclic operations are being carried out.

3. A CPU unit adapted to upload and download a user program between a programming tool and to carry out cyclic operations of I/O refresh, user program execution and peripheral service processes; said CPU unit comprising two memories for storing said user program and having the functions of:

selecting one of said two memories, when said programming tool carries out an editing process on said user program while said cyclic operations are being carried out, and the user program stored in said selected memory to be the object of execution;

uploading said programming tool and thereby outputting the user program stored in selected one of said two memories to said programming tool while said peripheral service processes are being carried out;

storing, while said peripheral service processes are being carried out, a user program downloaded from said programming tool in the other of said memories not storing a user program being executed;

switching the user program stored in the other memory, after the downloaded user program has completely been stored in the other memory, to become executed; and

copying and storing the user program stored in the other memory to and in the selected memory.

4. A method of editing a user program of a programmable controller by using a programming tool, said programmable controller being connected to a CPU unit having two memories for storing a user program and adapted to carry out cyclic operations of I/O refresh, user program execution and peripheral service processes; said method comprising the steps of:

preliminarily storing said user program in said two memories with same contents;

selecting the user program stored in a selected one of said two memories as the object of execution before said user program is edited with said programming tool and continuing said cyclic operations by the CPU unit;

uploading a user program stored in either of said two memories with said programming tool while said CPU unit is in operation, and editing said uploaded user program with said programming tool;

downloading the edited user program, after said step of editing is completed and while said CPU unit is in operation, to the other of said two memories and storing said downloaded user program with said programming tool;

causing said CPU unit, after said step of downloading is completed, to switch the object of execution from the user program in said selected memory to the user program in the other memory and to execute the edited user program wherein said CPU unit is arranged to execute the edited user program; and

causing said CPU unit to store the edited user program of the other memory to the selected memory thereby causing said two memories to store user programs with same content.

5. The method of claim 4 wherein said steps of uploading and downloading are from and to the memory storing the user program being executed by said CPU unit in said cyclic operations.

6. The method of claim 4 wherein said steps of uploading and downloading are executed while said CPU unit is executing said peripheral service processes.

7. The method of claim 4 wherein said CPU unit, when the user program is edited next by said programming tool, switches the object of execution from the other memory to the selected memory and maintains the object of execution thus switched until the downloading of the edited user program is completed.

8. The method of claim 4 wherein

said CPU unit, when the user program is edited next by said programming tool, keeps the object of execution unchanged from the other memory and continues to carry out said cyclic operations;

said programming tool, after said step of editing is completed and while said CPU unit is carrying out said cyclic operations, downloads the edited user program to the selected memory to be stored; and

said CPU unit, after said edited user program is stored, switches the object of execution from the other memory to the selected memory and executes the newly edited user program.

9. A method of processing with a programmable controller by using a programming tool, said programmable controller having two memories for storing a user program and adapted to carry out cyclic operations of I/O refresh, user program execution and peripheral service processes; said method comprising the steps of:

preliminarily having said two memories to store user programs with same contents;

selecting the user program stored in a selected one of said two memories as the object of execution and arranging such that said programming tool can write only into the other of said memories;

transmitting to said programming tool the user program stored in either of said two memories while said programming controller is carrying out said peripheral service processes in said cyclic operations;

storing the user program from said programming tool in said the other of said memories while said programming controller is carrying out said peripheral service processes in said cyclic operations;

switching the object of execution from said one of said memories to said the other of said memories and causing the user program stored in said the other of said memories to be executed; and

storing the user program stored in said the other of said memories in said one of said memories and causing the user programs in said two memories to have same contents.